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ABSTRACT

This collection of abstracts is part of a continuing series providing information on recent doctoral dissertations. The 26 titles deal with a variety of topics, including the following: (1) individual differences in the use of comprehension strategies; (2) field dependence-independence and text comprehension; (3) automaticity of word identification and reading comprehension; (4) induced visual imagery and literal comprehension; (5) competencies and uses of reading; (6) anaphoric resolution in text comprehension and memory; (7) the use of story concepts during reading; (8) mnemonic encoding strategies for recognition and recall of abstract prose information; (9) six theories on reading; and (10) the use of context clues to derive meanings of unfamiliar words. (MM)

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Reading, Comprehension, and Memory Processes:

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APTITUDES, KNOWLEDGE OF OBJECTIVES, ILLUSTRATIONS AND LEARNING FROM PROSE Order No. DA8301090

AGHAKHANIAN, VANOUHI DIANA, PH.D. *Indiana University*, 1982. 149pp. Director: Dr. Lawson H. Hughes

Purpose. Despite the widespread use of both statements of behavioral objectives and pictorial illustrations in written texts, little is known about their joint effects on learning as a function of the learner's differential verbal and visual aptitudes. Therefore, the primary experimental question posed in this study is, "Are there interactions between levels of learners' visual and verbal aptitudes and the presence or absence of behavioral objectives, pictorial illustrations, or the combination of these two accompanying a written prose passage?"

Hypotheses. Addition of objectives to prose are more beneficial to subjects having low verbal ability; addition of pictures to prose are more beneficial to subjects having low visual ability; and addition of both of these adjuncts to prose are more beneficial to subjects having low visual/low verbal ability than to subjects in other ability level combinations.

Procedure. 48 undergraduates enrolled at Indiana University were divided on the basis of "median splits" into four groups according to their visual and verbal ability test scores. The Ss within each of the four groups were randomly assigned to four experimental treatments (prose only, prose and objectives, prose and pictures, and prose with both objectives and pictures). The dependent variables were (a) number of correct responses on a 40-item multiple choice test and (b) amount of time Ss spent in studying the instructional materials.

Findings. The research hypotheses were not supported by the data. However, on the basis of other findings, it was concluded that (1) the use of objectives or pictures can improve learning from prose for all ability levels, (2) the minimal difference between the effect of objectives and pictures suggests that they have an equally facilitative effect on learning, (3) the use of the combination of objectives and pictures has the highest facilitative effect on learning, (4) the more time the subjects spend in studying, the greater the number of correct responses on the posttest, and (5) the prose accompanied by pictures requires more time to study. It was conjectured that the predicted interactions might occur using an extreme groups design rather than a median split design.

METAPHOR: INDIVIDUAL DIFFERENCES IN THE USE OF COMPREHENSION STRATEGIES Order No. DA8308468

ALDRIDGE, MAVIS MAUD, PH.D. *Fordham University*, 1983. 195pp. Mentor: Lillian Restaino-Baumann

The purpose of this study was to investigate the differences in the use of strategies in the comprehension by two groups of subjects estimated to be on seventh-grade reading level. The subjects included 10 college freshmen and 10 subjects at junior high school level. The strategies were studied from the protocols given by the subjects as they verbally expressed their mental processes in comprehending each metaphoric sentence in the contextual environment of each of five passages. Three areas related to metaphoric competence were examined: analogy, cross-category similarity, and paraphrase.

The theoretical foundation for the study was based on the work of several researchers, but particularly that of Ortony (1980), regarding the characteristics of a metaphor in the construction of the metaphoric sentences and the passages. The strategies that were anticipated were partially selected from the studies of Kavale and Schreiner (1979), Weinstein et al. (1979), and Karplus (1981), as well as from literature on problem solving, a process which a number of theorists believe to be inherent in reading; for example, Thorndike (1971).

The strategies from the protocols of each subject were assigned to categories, computed as percentages, and analyzed for similarities and differences between the two groups. Supplementary analyses were also carried out to examine more intensely, the specific nature of the strategies used in the protocols, by each subject in each group, to obtain meaning.

The findings indicated that: (a) individuals in both groups were similar in the frequent application of their strategies; (b) individuals in both groups were similar in selecting certain strategies over others for frequent applications, but differed in meaning outcomes; (c) individuals in both groups differed in their ability to discover the analogical elements; (d) individuals in both groups showed differences in their ability to locate cross-category similarity; and (e) individuals in both groups differed qualitatively in their paraphrased interpretations of the metaphoric sentences.

AUTOMATICITY OF WORD IDENTIFICATION AND READING COMPREHENSION Order No. DA8300417

ALLEN, TIMOTHY KEY, PH.D. *University of California, Berkeley*, 1982. 125pp.

This study tested the hypothesis that a reader's comprehension and/or reading speed is affected by how automatically s/he can identify the words being read.

Thirty-six third and fourth graders were divided into two groups; each group was assigned 18 difficult practice words. After pre-training all the children could read and define their assigned words.

In two sessions each child read lists of words aloud. The lists contained 12 of the practice words a total of twenty times each, and the remaining six practice words only once each.

At least five days later, two tests of the automaticity of the practice words were administered. One test was a double lexical decision test. The child was presented a pair of words and pressed a button as quickly as possible if the two words were both real words. The measure of interest was the time required to decide that two practice words were real words. This test was also administered as a pretest.

The second test was a test of the interference between word identification and a short term memory (STM) task. The child read a pair of practice words aloud after having been given three new adjective-noun propositions to remember. The measure of interest was the amount recalled after reading the pair of practice words.

At least two days after these tests, each child read and recalled two stories written to include the words which had been practiced, and a third story which contained control words. There were four measures of reading performance: (1) reading time, (2) total propositions recalled, (3) recall of propositions related to practice words, and (4) recall of propositions which had preceded words in the stories.

Multivariate tests indicated that practice affected both automaticity and reading performance, thus supporting the hypothesis. The lexical decision measure was significant, and the STM interference measure was marginally significant. The only significant reading performance measure was recall of propositions preceding practice words.

A secondary hypothesis was that preceding practice words with semantically related words during practice would affect how quickly they became automatic. This hypothesis was not supported.

THE EFFECTS OF INSTRUCTION IN TEXT ORGANIZATION ON MIDDLE GRADE STUDENTS' MEMORY FOR EXPOSITORY READING Order No. DA8301905

BERKOWITZ, SANDRA JEAN, PH.D. *University of Minnesota*, 1982. 238pp.

Analyses of readers' written protocols of the information they can recall after reading have revealed that readers who followed an author's structure recalled more information than readers who did not follow the organization of material. The purpose of this study was to compare two experimental methods of instructing students to use the organization of ideas in content reading as a framework for studying (map-construction and map-study procedures) with two control study methods which did not focus students' attention on text organization (answering questions and reread procedures).

Four sixth-grade social studies classes were randomly assigned to the four treatment procedures. After a six-week instructional program, all groups' free recall and answers to questions on 3-4 page expository passages were measured immediately after reading each of two passages, after a delay of two weeks and in a transfer condition.

Analysis of results revealed that the map-construction group recalled significantly more idea units, in general, and significantly more main ideas than any other group in one of the immediate free recall conditions. Also, the map-construction and question treatment groups scored significantly higher than the other groups on one of the immediate question tests. When only students who were judged to be expert in either constructing maps or answering questions were considered, the map-construction procedure appeared to facilitate significantly greater recall than the question procedure on both immediate and delayed assessments. No differences were found between expert groups on the question tests.

The results suggest that map-construction, a generative study procedure which helps students to focus on text structure while studying, facilitates greater immediate free recall of expository passages than answering questions, map-study, or rereading procedures for at least some passages. Furthermore, when expertise is taken into account, map-construction appears to foster greater free recall than answering questions in immediate and delayed recall conditions. Finally, because no differences were detected between groups in the transfer condition, it appears that sixth-grade students must actively engage in study procedures in order for these procedures to facilitate recall of expository text.

THE RELATIONSHIP BETWEEN FIELD DEPENDENCE-INDEPENDENCE AND THE COMPREHENSION OF EXPOSITORY AND LITERARY TEXT TYPES

Order No. DA8300120

BLAKE, MARY ELIZABETH, PH.D. *The University of Connecticut*, 1982. 239pp.

The purpose of this study was to investigate the relationship between field dependence-independence and literary and expository comprehension scores. Another objective was to examine the relationship between text structure and comprehension.

The sample contains 121 sixth grade students from a suburban town in northeastern Connecticut. For testing purposes, the subjects were randomly assigned to either an expository or a literary group.

Field dependence-independence was measured by the *Embedded Figures Test* (EFT). Literary and expository comprehension were assessed by a multiple choice comprehension test adapted from the *Iowa Silent Reading Tests*, Level 1.

Partial correlation and analysis of covariance were used to analyze data related to the following hypotheses: (H_o1) There is no significant relationship between field dependence-independence test scores and expository text type comprehension scores when controlling for IQ and age. (H_o2) There is no significant relationship between field dependence-independence test scores and literary text type comprehension scores when controlling for IQ and age. (H_o3) No significant differences at the $p < .05$ level exists between means of comprehension scores for groups that are high, average, or low on the field dependence-independence test and for groups reading expository or literary passages when controlling for IQ and age and assessing all interactions.

Several conclusions may be drawn. The data indicated that there was a significant relationship between field independence and expository text type comprehension. However, the relationship between field dependence-independence and literary text type comprehension was not significant. There were no significant differences on mean comprehension for groups formed by the EFT median and ½ standard deviation cutoff points. With the EFT standard deviation cutoff point the difference approached significance ($p = .059$); Dunn's test showed that the field dependent and field independent groups were significantly different. But the original level of significance makes this conclusion speculative. In the EFT standard deviation analysis there was a significant difference in mean comprehension scores for the literary and expository text type groups. The literary mean was significantly ($p < .05$) higher.

The results imply that text type affects comprehension and that only extreme field dependence or field independence may be capable of influencing comprehension of either text type.

THE EFFECTS OF THE TYPE AND DEGREE OF ORGANIZATION PRESENT IN TEXT ON CHILDREN'S RECALLS OF WRITTEN DISCOURSE Order No. DA8228971

BOLJONIS, ALEXANDRA KIZIS, PH.D. *Syracuse University*, 1982. 168pp.

This study, conducted within the theoretical construct that reading comprehension is schema-driven, investigated the effects of the type and degree of organization present in passages on the reading comprehension of children. It was hypothesized that children would comprehend narratives better than non-narratives due to children's more highly developed internalized schema for stories. Further, it was expected that varying the degree of organization present in the passages of both types would provide additional evidence about schema-driven reading behavior by revealing to what extent children could impose an organization on texts of both types where the organization was either minimally cued or distorted. Finally, by examining the interactive effect of organizational type and level, it was predicted that there would be a hierarchy of comprehension difficulty for the passages in the different versions.

The subjects were 120 above average fourth grade readers who attended schools in the same suburb. The subjects were randomly assigned to one of the twelve treatment groups that resulted from the factorial combination of two passages each of two organizational types and three organizational levels. In groups of twenty, each subject read one version of one 200 word passage for which they produced written free and probed recalls. The stimulus passages and the readers' recalls were analyzed using discourse analysis procedures and scored for the presence of five dependent measures: number of words recalled, number of propositions recalled, number of superordinate ideas recalled, number of subordinate ideas recalled and number of macropropositions generated.

A post test only completely randomized design was used. Primary data analyses were performed by means of MANOVA procedures in order to control for an overall error rate and to test for main effects of organizational type and degree. The results revealed reliable effects of both organizational type and degree. Subsequent analyses consisted of ANOVA procedures and post hoc comparison of means using Fisher's L.S.D. procedures.

As predicted, the narrative passages were comprehended better than the non-narrative passages. Also, the passages with the most complete organizational structure were comprehended better than those in which either the organization was minimally cued or distorted. A hierarchy of difficulty of comprehension for the passages in the different versions was partially obtained. . . . (Author's abstract exceeds stipulated maximum length. Discontinued here with permission of author.) UMI

CHILDREN'S STORY RECALL AS AN EFFECT OF STRUCTURAL VARIATION OF TEXT Order No. DA8309089

BRENNAN, ALISON DIANE HOUSE, ED.D. *University of Kentucky*, 1982. 169pp. Director: Connie A. Bridge

The purpose of this study was to assess the differences in memory of beginning readers after reading a well-formed story and after reading a story with little structure. Specifically, it attempted to determine whether prose organizational rules quantitatively and/or qualitatively affect the memory of readers. Additionally, the present study attempted to determine whether such rules affect the temporal ordering or sequencing of memory in a reading task.

Thirty-two second grade children were asked to read orally one of two versions of two passages. Two basal passages were used as examples of reading selections which do not adhere to the prose organizational rules delineated in a story grammar. A well-formed story was developed from the vocabulary of each basal passage. After the oral reading, the subjects were asked to retell all that they could remember about the passage. After the free response recall, they were asked specific implicit and explicit probes relating to the respective passage.

Major findings included: (1) The subjects reading the well-formed story recalled more explicit information in their retellings than subjects reading the poorly-formed selection. (2) Subjects reading the well-formed story generated less implicit information in their retellings than subjects reading the poorly-formed selection. (3) Subjects reading the well-formed story recalled in temporal sequence a greater number of events than those subjects reading the poorly-formed selection. (4) Subjects reading the well-formed selection answered the explicit probes with a higher degree of accuracy and completeness than subjects reading the poorly-formed selection. (5) Subjects reading the well-formed story answered the implicit probes with a higher degree of accuracy and completeness than subjects reading the poorly-formed selection.

It was concluded that the subjects' memory for stories was influenced by the structure of the narrative. Specifically, the well-structured versions of the stories elicited quantitatively and

AN INVESTIGATION OF THE THREE LEVEL CONSTRUCT OF COMPREHENSION FOR VERBAL MATHEMATICS PROBLEMS

Order No. DA8300121

BURZLER, DONALD ROBERT, JR., PH.D. *The University of Connecticut*, 1982. 135pp.

Problem. The investigator sought to determine whether student performance on three level comprehension questions for verbal mathematics problems indicated three separate and distinct levels.

Research Question and Hypotheses. The study focused on the following research question: Does student performance on questions designed to elicit responses on the six comprehension scales for verbal mathematics problems indicate three separate and distinct levels of comprehension?

Four null hypotheses were addressed: (HO_1) There is no significant difference in performance at $p < .01$ level on the three levels of comprehension for the total sample of subjects. (HO_2) There is no significant difference in performance at $p < .01$ level on the three levels of comprehension for students with high, middle, and low mathematics problem solving ability. (HO_3) There is no significant difference in performance at $p < .01$ level on the six comprehension scales for the total sample of subjects. (HO_4) There is no significant difference in performance at $p < .01$ level on the six comprehension scales for students with high, middle, and low mathematics problem solving ability.

Population. The population included 118 seventh and 105 fifth grade students from a school district in southeastern Connecticut.

Procedures. Six comprehension scales were developed from the three comprehension levels. An instrument was developed to obtain student performance data on the six comprehension scales for ten verbal mathematics problems. The instrument was administered to the sample. Common-factor analyses were carried out to address the research question. Two repeated measures analyses of variance were used to address the four null hypotheses.

Findings. (1) Performance on the three levels on comprehension for the total sample and three ability groups provided some support for three separate and distinct levels. (2) Analyses of performance on the six comprehension scales indicated no more than two factors in all cases. (3) Performance on the six comprehension scales for the total sample and three ability groups indicated there were no significant differences between elements of different levels of comprehension.

Implications. While analyses of the three levels of comprehension provided some support for three separate and distinct levels, serious questions were raised by analyses of the six comprehension scales.

AN ANALYSIS OF SCHEMATA FOR STORY COMPREHENSION AMONG GIFTED AND AVERAGE CHILDREN AT SECOND AND FIFTH GRADE

Order No. DA8301687

CARR, KATHRYN SUE, ED.D. *University of Kansas*, 1982. 162pp.

Differences in story comprehension among gifted and average children at second and fifth grade were analyzed according to text grammar theory. A fable and a folktale were parsed to reveal the hierarchical structure, the explicit text base, and the implicit text base.

Sixty subjects, 15 in each group, read orally each of the stories in separate sittings approximately one week apart. Following the reading, subjects participated in a 20-minute reasoning game activity to control for short term memory. They were then asked to tell the entire story in free recall and answer a series of probe questions. Two sets of questions were administered, one to test memory of explicitly stated information and the other to test inferences. The order of question sets was alternated across subjects.

Results of the study indicate that both gifted and average children at second and fifth grade recalled elements from the hierarchical structure of the story, primarily Setting and Plot. Probe questioning produced a significantly higher percentage of responses in all story nodes. All subjects stated significantly more explicitly stated information than inferences. Probe questioning was necessary to elicit inferred information; however, the order of questions, explicit prior to inferential, made no significant difference in number of relevant inferences.

It was concluded that stories containing more empty slots in the text base require more inferences on the part of the reader, and are, therefore, more difficult to comprehend. Furthermore, inference questions were found to be essential to the assessment of comprehension.

Gifted students scored significantly higher than their average peers on most variables tested. Their superiority was most pronounced in their ability to answer inference questions. The profiles of gifted second grade students resembled those of average and gifted fifth grade students in reading comprehension of folktales.

THE EFFECTS OF INDUCED VISUAL IMAGERY AS A STAGE-SETTING STRATEGY AND AS A STORAGE/RETRIEVAL STRATEGY ON THE LITERAL COMPREHENSION OF PROSE FOR FIFTH-GRADE STUDENTS

Order No. DA8301138

CARVER, NANCY KLOS, ED.D. *University of Northern Colorado*, 1982. 96pp.

The purpose of this study was to investigate the effect of induced visual imagery as a stage-setting strategy and as a storage/retrieval strategy on the literal comprehension of a 660 word, narrative prose passage for fifth-grade students of average and above average reading ability.

The population of this study consisted of 139 fifth-grade students. Validity, reliability and readability were established on the 660 word passage and the short-answer literal comprehension questions. Subjects were assigned to either the imagery as a stage-setting strategy group, the imagery as a storage/retrieval strategy group, or to the control group. Each group received the appropriate 10 to 15 minute pre-treatment session to aid in understanding the treatment instructions. In the treatment procedure for the stage-setting strategy group the experimenter described the major themes of the passage to the students in order to guide their imagery before they read the passage. In the treatment procedure for the storage/retrieval strategy group the subjects were instructed, orally and in print, to make a mental picture of what they had read after reading each page. The control group read the passage without any imagery instructions.

A two-way analysis of variance using a treatment by levels design was used to analyze the data. The subjects were divided into two levels (average and above average) according to their stanine scores on the *Metropolitan Achievement Test: Reading Subtest*. There were no significant differences between groups when the levels were combined and there was no interaction between any of the groups and levels, leading to the conclusion that the differences between the mean comprehension scores of the groups in each of the hypotheses was not significant at the .05 level (two-tailed test).

Since there were no significant findings in this research study, the implication for education would seem to be that there is no justification for the teaching of these comprehension strategies to students at the fifth-grade level; however, such an implication should consider the limitations and assumptions of this study.

A STUDY OF THE THREE-LEVEL HIERARCHY OF INFORMATION PROCESSING IN READING COMPREHENSION WITH RESPECT TO COGNITIVE DEMAND

Order No. DA8229499

GAUTHIER, LANE ROY, PH.D. *The Louisiana State University and Agricultural and Mechanical Col.*, 1982. 172pp. Supervisor: Professor Earl H. Cheek, Jr.

This study was designed to study the three-level hierarchy of information processing with respect to cognitive demand. The study addressed the problem of differences between the most commonly used levels of comprehension, literal, inferential, and critical.

The main types of information processing models, bottom-up, top-down, and interactive-compensatory, all accept the premise that literal processing is less cognitively demanding than inferential processing, and that inferential processing is less cognitively demanding than critical processing.

In order to test whether statistically significant differences actually existed in these three levels of comprehension, fifty students were chosen and individually tested. Twenty-five fifth graders, and twenty-five sixth graders, with an equal division of males and females, composed the sample of fifty. The instrument used was the *California Achievement Test*. The method used was the dual task method, where the students performed the primary task above, as well as a secondary task. The secondary task employed an audiometer, and required the students to mark a grid according to sounds in the left or right ears.

There were twenty-one hypotheses, all of the null variety, and all allowing for the combinations of all three comprehension levels. Results from an analysis of the data showed that for the primary task, only four of the possible forty-two areas showed differences. For the secondary task (X-task) none of the possible twenty-one areas showed differences. The data provided strong evidence to deny the existence of statistically significant differences among the three levels of comprehension with respect to cognitive demand.

Recommendations were made to practitioners based upon the findings. One suggestion was for classroom teachers to use a variety and mixture of questions at all levels.

Recommendations were also made to researchers interested in this same direction of study. The major suggestion in this category dealt with the need to find a better measure of difficulty for comprehension questions.

THE EFFECT OF COGNITIVE ORGANIZATION ON READING COMPREHENSION

Order No. DA8310238

GOODFRIEND, PHYLLIS RUTH, PH.D. *Hofstra University*, 1982. 158pp.

The purpose of this study was to investigate the effects of nonverbal and verbal classification abilities on the reading comprehension of fourth-grade students. One hundred fourth-grade students were tested on three measures of classification ability designed by the investigator specifically for this study, and on a measure of recall of the most relevant aspects of a story. IQ scores were obtained from tests previously administered at the four participating schools. Intercorrelations between the four variables (IQ, reading recall, nonverbal, and verbal classification) were computed, and the data were then submitted to multiple regression analysis with reading recall as the dependent variable and nonverbal and verbal classification as the independent variables. IQ was found to contribute a significant amount of the variance of reading recall ($p < .01$). The amount of variance contributed by nonverbal and verbal classification together was small and not statistically significant. However, when the scores of the individual classification subtests were entered into the multiple regression analysis separately, the amount of variance explained by nonverbal and verbal classification rose to an amount which approached significance at the .05 level.

The major conclusion drawn from this investigation was that the effect of nonverbal and verbal classification on reading comprehension as measured by recall was too small to be statistically significant when the effect of IQ was controlled. The measures of classification designed for this study should not be used as a screening device with large groups of students. However, they might be used as an additional diagnostic tool when working with individual students with reading comprehension problems. Further research on this topic could employ a larger and younger sample with a more normal distribution of IQs, alternative methods of measuring reading comprehension, an expository rather than a narrative reading selection, and an improved method of scoring the classification tasks.

THE EFFECT OF ALTERNATE VISUAL FORMATS ON THE READING COMPREHENSION OF FIFTH GRADERS

Order No. DA8227609

JONES, HENRY JON, ED.D. *Ball State University*, 1982. 230pp. Adviser: Dr. J. David Cooper

The purpose of this study was to determine whether the Alternate Visual Formats (AVFs) would cause a significant difference in the subjects' comprehension as compared to their comprehension of a passage in the Traditional Visual Format (TVF). The study used an equal number of male and female subjects that were as homogeneous as possible in terms of: (1) grade level; (2) reading level; (3) socio-economic status; (4) general academic achievement.

The difference in comprehension was measured by having the subjects answer a set of eight multiple choice questions immediately following their reading of each of the three passages. The passages were taken from a commercially published Informal Reading Inventory (IRI) and two had their printed formats each modified to a different AVF. The set of questions that were used with each passage came from an initial pool of twenty-four. This pool was created by modifying the published IRI questions to a multiple choice format and constructing additional questions for each passage. A pilot study was conducted; a point biserial analysis was used to select the questions which were subsequently used in the study. The results of the subjects' performance on these questions were then analyzed.

Two methods of analysis were employed to analyze the data. A repeated measures analysis of variance was used to determine whether there was any difference in the subjects' comprehension due to format, sex, or a combination of these factors. The results of this analysis revealed that there was a significant difference in the subjects' comprehension due to format ($F = 27.05$ at 0.0000 probability). This analysis further indicated that there was no significant difference found when the comprehension of the male and female subjects was compared ($F = 1.81$ at 0.1894 probability). Neither was there any significant comprehension of a particular form by a particular sex ($F = 0.12$ at 0.8854 probability). The only significant difference in comprehension was found to be due to form. The second method of analysis was the Newman-Keuls procedure which yielded results that showed the subjects were able to comprehend the TVF passage significantly (beyond the .01 level) better than either of the AVF passages. There was no significant difference between the mean scores of the AVF passages. . . . (Author's abstract exceeds stipulated maximum length. Discontinued here with permission of author.) UMI

COMPETENCIES AND USES OF READING: AN EXPLORATORY INVESTIGATION

Order No. DA8309884

KIRSCH, IRWIN STUART, PH.D. *University of Delaware*, 1982. 148pp. Professor in Charge: A. Jon Magoon

This study explored the relationship between people's uses for reading and their proficiency at performing related domains of tasks. Questionnaires, interviews, and observations were used to obtain information regarding frequently occurring reading tasks among a sample of adults in work and leisure settings. A reading task consisted of a document or material and a use made of that material.

Based on these data, two types of reading--text search and prose comprehension--were proposed. A two-stage information processing model for text search was developed and contrasted with a general processing model of reading (Sticht, 1978).

Thirty-eight reading tasks corresponding to prose comprehension and text search were constructed and administered to 42 employees of the Chesapeake and Potomac Telephone Company. Background information, number correct, and reading volume measures pertaining to each type of reading were obtained. In addition, response time was estimated for Stage I and II of text search tasks.

Performance on prose comprehension and text search tasks were uncorrelated ($R = .26$) indicating different underlying processes (Carroll, 1981). Time spent engaged with text search tasks correlated .55 with performance on text search tasks while correlating .01 with performance on prose comprehension tasks. Time spent engaged in prose comprehension correlated .64 with performance on prose comprehension tasks while correlating .08 with text search tasks. When measured against a comparison group, telephone employees were more accurate and 50% quicker at performing job related text search tasks. They were also 23% faster in accomplishing general text search tasks.

Results of this study indicate that: (1) there appears to be types of reading that can be measured independently; (2) these types are conceptually distinguishable in terms of the goal of the reader and the procedures followed to achieve that goal; and (3) time spent reading for a particular goal is an important indicator of proficiency at performing similar tasks. The importance of studying reading as a culturally organized system of skills and values that can be acquired to meet individual needs in various contexts is suggested and educational implications are discussed.

SIXTH GRADERS' RECALL OF TEXT AS A FUNCTION OF STANDARDIZED PARAGRAPH COMPREHENSION, WORD IDENTIFICATION SPEED, TEXTUAL EXPLICITNESS AND THEME PLACEMENT

Order No. DA8218708

KRIEGER, VERONICA KRNA, ED.D. *State University of New York at Albany*, 1982. 167pp.

The purpose of this study was to relate childrens' ability differences at the word, the micro, and the macro levels of text processing to their quantitative recall of paragraphs varying in textual explicitness and theme placement.

One-hundred-nineteen sixth grade subjects were tested on their word identification in isolation and their written recall of six expository paragraphs that were structurally altered in terms of textual explicitness and theme placement. Textual explicitness of paragraphs was represented either under explicit or implicit conditions. In order to make text information either explicitly or implicitly related, the following text variables were controlled: anaphoric reference, cause/effect relations, spatial and temporal relations, enumerate terms, and the number of macropropositions, i.e., main idea units of information. In both explicit and implicit paragraphs, themes were placed as the first sentence (theme-first paragraphs), the last sentence (theme-final paragraphs) or not at all (no-theme paragraphs).

At the word level, regression analysis indicated that readers who were faster word identifiers tended to have higher paragraph comprehension scores from the *Stanford Reading Test* than readers who were slower word identifiers. A series of repeated measures analysis of variance (ANOVA) revealed no group differences between faster and slower word identifiers in their quantitative recall from paragraphs varying in textual explicitness and theme placement. Treatment effects were significant only for textual explicitness paragraph conditions. Explicit paragraphs produced greater recall than implicit paragraphs for both faster and slower word identifiers. Correlational analysis indicated that quantitative recall from the paragraphs variations was more closely related to readers' standardized paragraph comprehension performances than to their word identification speeds. . . . (Author's abstract exceeds stipulated maximum length. Discontinued here with permission of school.) UMI

METACOGNITIVE STRATEGY TRAINING FOR GENERAL AND CONDITIONAL CAUSAL SCHEMA DEVELOPMENT IN TEXT COMPREHENSION

Order No. DA8308483

MARMOREK, DORIS, PH.D. *Fordham University*, 1983. 201pp. Mentor: Lillian Restaino Baumann

The purpose of this study was to determine the effect of two metacognitive strategy training programs, in general and conditional causal schema, upon the ability of second grade students to identify general and conditional casual relations in text.

The theoretical foundation for the study was based on current models of metacognitive processing (Brown, 1978; Baker, 1980), and the theories of schema development (Spiro, 1980; Trabasso, 1980) and causality (Pearson, 1980; Irwin, 1980).

Forty second graders, aged 7-8, who scored 60% or below on a Screening Test for Causality, were reading on or above grade, in two parochial elementary schools in New York City, were randomly assigned to two treatment groups for participation in five Metacognitive Strategy Training Sessions in General (Group I) and Conditional (Group II) Causal Schema.

The t-test results of tests of General and Conditional Causality showed significant differences between pretest and posttest mean scores for both treatment groups. Significant differences were found between posttest mean scores for both groups on the test for Conditional Causality, with subjects who had received Metacognitive Training in Conditional Causal Schema scoring higher than the group trained in General Causal Schema. No significant differences were indicated between posttest mean scores for the two treatment groups on the General Causality Test.

Conclusions derived from this study were: (1) Strategic demands of reading comprehension involving causal relations in new text may be considerably enhanced, even for young students, through metacognitive strategy training classroom programs. (2) Since understanding conditional causal relations in text has proven particularly difficult for young learners, direct teaching of skills to strengthen hypothesis testing, involving predicting possible outcomes and forming judgments about probable causes, facilitates comprehension of causal relations for the young reader.

The study confirmed the need for systematic strategy training activities, with a metacognitive component, for helping young readers to transfer their comprehension skills to new texts involving causal relations, particularly with conditional causality.

ANAPHORIC RESOLUTION IN TEXT COMPREHENSION AND MEMORY

Order No. DA8306804

MILAM, DANEEN ADDS, PH.D. *Texas A&M University*, 1982. 201pp. Co-Chairmen: Dr. Michael J. Ash, Dr. Ernest T. Goetz

Anaphora has been defined as a word or phrase that is substituted for and refers back to a specific antecedent, and which serves as either a cohesive element in language or an element that must be resolved in order to comprehend what has been read. The role of anaphora has been primarily studied in children rather than adults.

The purpose of this study was to investigate college students' ability to resolve anaphoric relationships and to empirically test whether anaphora aids or hinders the comprehension of connected discourse.

Two passages were taken from *Timed Readings* (1975) and manipulated to produce two versions of each. One version contained twenty anaphoric substitutes and the other contained only noun referents. Each passage remained identical except for anaphoric manipulation. One hundred and forty-one college students were asked to read both passages, one anaphoric and one referentially specific.

Two measures of anaphoric resolution were used; free-recall and probe questions. A third passage, adapted from the Dutka (1978) study was administered. The cloze technique was used as the measure of anaphoric resolution. A 2 x 4 factorial repeated measure design was used with passaage type (anaphoric vs referentially-specific) and order of presentation as the independent variables. The dependent variables were the number of facts that could be recalled from the passage, and the number of correct responses to a probe task. Anaphora was found to neither aid nor hinder reading comprehension on a free-recall task but hindered comprehension on a probe question task.

Using the anaphoric characteristics of distance (the number of words between an anaphoric item and its referent) and length (the number of words in the referent replaced by the anaphoric item), it was found that both affected performance on the cloze task. Length affected performance on the free-recall but not the probe-question task. Distance did not affect performance on the free recall task but approached significance on the probe question task.

The two passages were equivalent in length and number of words, but not equivalent based upon performance. Additional research is needed to assess the conditions under which anaphora aids or hinders reading comprehension.

THE EFFECTS OF SELF-INSTRUCTIONS AND DIDACTIC TRAINING ON FIFTH-GRADERS' DETECTION OF ERRORS IN PROSE PASSAGES

Order No. DA8224060

MILLER, GLORIA EVE, PH.D. *The University of Wisconsin - Madison*, 1982. 225pp. Supervisor: Professor Steven R. Yussen

This study was designed to remediate fifth-grade readers limited use of comprehension monitoring processes during reading through a self-instructional approach. Thirty-nine average and superior comprehenders, identified on the basis of a standardized reading test, were tested on their ability to successfully detect inconsistencies contained in short essays, prior to, immediately after, and one week after serving in one of three instructional groups. The instructional groups were: a teacher directed didactic control group; a neutral self-instruction group; and a specific self-instruction group. Children in the didactic control groups received the same instructional content as children in the neutral self-instruction groups, but without active rehearsal. In addition to the active rehearsal components, the specific self-instruction groups received self-statements specifying an optimal task criterion. Within each ability level, planned contrasts were made among students' immediate and delayed performance gains across the three instructional groups. Immediately after training, the average comprehenders displayed equivalent improvement across all groups while the superior comprehenders in the specific self-instruction group improved significantly more in detecting errors than did the didactic control group. One week later, no improvement differences were noted between the groups for either ability level. Superior comprehenders displayed significantly greater improvements than the average comprehenders only immediately after receiving the specific self-instruction. Although the superior comprehenders detected more text errors than the average comprehenders, the patterns of improvement following instruction were similar in all remaining between ability comparisons.

AN EXPLORATORY STUDY OF COMPREHENSION STRATEGIES USED BY EIGHTH GRADE STUDENTS AS RELATED TO THREE FACTORS: COGNITIVE DEVELOPMENT, STORY STYLE, AND PROPOSED INTEREST

Order No. DA8304820

NELMS, VIRGINIA CORBETT, PH.D. *Georgia State University - College of Education*, 1982. 200pp.

Purpose. The purpose of this study was to identify reading comprehension strategies used by fluent eighth grade readers. Identified strategies were related to three factors: cognitive development (concrete operational versus formal operational), story style (literal versus abstract), and proposed interest (interested versus uninterested).

Methods and Procedures. Forty eighth graders were placed in eight combination treatment conditions according to development, interest, and story style. Using protocol analysis, each student read silently a short story, stopping to verbalize his thought processes at indicated signals. Student verbalizations were tape-recorded, then transcribed for analysis. As patterns of responses began to emerge from the transcriptions, they were classified as strategies. Strategies identified were: synonym substitution, inference, implication, reference to the story, personal association, failure to comprehend, oral reading, visualization/imagery, use of figurative language, restating the text, incorporating details from earlier in the story, accurate paraphrase, inaccurate paraphrase, and no response. Each strategy used by all subjects was analyzed using a three-way analysis of variance.

AN EXPLORATION OF ELEVEN YEAR OLDS' USE OF STORY CONCEPTS DURING READING

Order No. DA8223256

REINHARDT, MAY CARSON, ED.D. *Harvard University*, 1982. 111pp.

This study examined how ten 11-year old subjects, six boys and four girls, used concepts about story form to help them construct meaning during the process of reading.

The subjects were selected from 47 sixth graders in a suburban Boston elementary school on the basis of their performances on a story retelling and on a story writing task. Using ratings of these two tasks as a basis for selection, the ten subjects were chosen from the larger group to represent varying levels of story concept acquistion. None of the ten had reading or learning disabilities.

Subjects met with the experimenter to read aloud from four literary selections which were controlled for readability. At predetermined places in the stories the subjects were asked to respond to the stories in a non-directed fashion. Comments were recorded, transcribed and coded into seven Squire (1964) categories. Subjects were also asked to predict story endings. The Huck Inventory of Literary Background and an informal reading questionnaire were administered at a later date.

Results support the hypothesis that 11 year olds interpret stories by focusing on the actions and motivations of characters. Subjects tended to predict conventional story endings, but did not prefer them.

Subjects with higher level of story concepts made more responses, particularly in interpretational responses, and posed more hypotheses about story events. They also rated themselves as having read more books and having begun to read at an earlier age than other subjects. No differences were observed between high story concept level children and others in their background knowledge of stories as measured by the Huck Inventory.

Future research in this area will need to replicate these findings with larger, more varied populations, especially subjects of different ages, cultural backgrounds and reading achievement levels. Further study of the differences in the use of story concepts during the reading and writing of stories is also suggested.

COMPARISON OF TWO MNEMONIC ENCODING STRATEGIES ON CHILDREN'S RECOGNITION AND RECALL OF ABSTRACT PROSE INFORMATION

Order No. DA8304290

SHRIBERG, LINDA KAY, PH.D. *The University of Wisconsin - Madison*, 1982. 245pp. Supervisor: Professor Dale D. Johnson

Although, by the mid-1960's, a sizeable number of research investigations had been undertaken to explore the efficacy of mnemonic strategy usage for the learning of unconnected pairs, there had been only a paucity of studies relating mnemonic techniques to the recognition or recall of information from prose materials. Yet prose is the primary medium through which information is transmitted in formal instructional settings, such as the classroom. Because mnemonic strategies tend to facilitate learning, because mnemonic strategies can be taught, and because most of what goes on in the classroom is communicated through prose, it seemed reasonable to explore the effectiveness of mnemonic strategy application for children's memory of information from prose materials.

In the present study, 172 eighth-grade students were presented prose passages, specifying the names of five fictitious towns, along with four relatively abstract attribute terms that described each town. Students in the two experimental conditions were taught either a semantically- or a phonetically-based mnemonic strategy for remembering the town-attribute pairings. Students in the two control groups were asked to remember the same information from either a listing of each town and its associated attributes, or from a second exposure to the passage. Testing took place both immediately following instruction (Day 1) and three days later (Day 4).

On the immediate and delayed tests of recognition, subjects in both the semantically- and the phonetically-based strategy groups significantly outperformed controls. Only the semantically-based strategy group showed superiority on the immediate test of recall. On the delayed recall test, however, subjects in both strategy groups performed better than controls. In all cases, much greater attribute clustering was observed in the two strategy conditions than in the two control conditions.

Differences in types of recall (verbatim vs. paraphrase) are described, implications of the results are discussed, and suggestions for future research are indicated. In addition, semantic and phonetic encoding operations are viewed as viable strategies for the learning of abstract information within a prose context.

THE EFFECTS OF READABILITY AND MACROSIGNALS ON THE COMPREHENSION AND RECALL OF INSTRUCTIONAL TEXT

Order No. DA8304080

SMITH, PATRICIA LUCILLE, PH.D. *The Florida State University*, 1982. 347pp. Major Professor: Ernest Burkman

This study investigated the effects of macrosignals, readability level, and training in a reading strategy on 241 high school students' comprehension and recall of a reading passage.

Half of the students studied a reading strategy that uses macrosignals to enhance comprehension and aid recall. The remaining participants received instruction on conversions in the metric system.

One week after the instruction, the students read one of four versions of the experimental reading passage about the Stone Ages: high readability/with macrosignals, high readability/without macrosignals, low readability/with macrosignals, low readability/without macrosignals.

The with-macrosignals versions included title, headings and subheadings, topic sentences, prequestions, introduction, and summaries. The without macrosignals versions included none of these textual cues. The high readability version was written at twelfth grade level according to the Fry Readability Graph. The low readability version, with shorter sentences and simpler vocabulary, was written at the sixth grade level.

After the 30-minute period allowed for reading the passage, the students responded to the "Ease of Reading Scale" on which they reported symptoms of comprehension and lack of comprehension. Then the students answered twenty multiple-choice, paraphrased comprehension questions. One week later the students completed a free recall test.

A multiple regression analysis revealed no interactions between treatments or between treatments and reading abilities. The analysis also indicated that the macrosignals and training in the reading strategy had no significant effects on comprehension, recall or reported ease in reading. Readability level did not have a significant effect on comprehension or recall. Readability level did have a statistically significant, but not practically important, effect on student's reported reading ease.

Macrosignals may have failed to have an effect because students possessed enough prior knowledge and necessary schemata to construct the relationship between their existing knowledge and the details of the passage. The high readability level may not have been sufficiently above the average student's reading ability to have the predicted effects. The instructional treatment may not have been practiced sufficiently to have the predicted facilitating effects.

The attribute variables (prior knowledge and reading ability) had the greatest influence on comprehension scores, an intermediate effect on delayed recall scores, and the least influence on students' reported ease in reading.

AN ANALYSIS AND EVALUATION OF SIX THEORIES OF READING

Order No. DA8303951

SMITH, WILLIAM EARL, ED.D. *Indiana University*, 1982. 328pp. Chairperson: Dr. Carolyn Burke

The purpose of this study was to determine which of six theories of reading most adequately explained the reading process. Holmes', Gough's, LaBerge and Samuels', Rumelhart's, Beaugrande's, and Goodman's theories were examined. Each was examined for internal coherence, external coherence, and correspondence. Internal coherence is determined through an examination of the substantive terms for specificity (how well they are defined) and connectivity (how well they are related). External coherence is determined through the examination of the theory for goodness of fit to related theories.

Correspondence is a measure of how well the theory fits known data about reading. A review of the literature dealing with the psychology of reading was conducted. From that review were extracted twelve benchmarks that a theory of reading must address. Each theory was evaluated for how well each of the benchmarks was incorporated into the theory. To further examine correspondence, a sample of a child's reading and retelling was sent to each theorist with a request to respond (based on his theory) to eleven questions about the reader.

No one theory completely met all of the criteria established. Holmes' Substrata-Factor Theory was more descriptive than explicative. Gough's and Laberge and Samuels' theories were too linear to account for the interactive and parallel natures of reading. The three most adequate theories in reverse order of preference were: Rumelhart's, Beaugrande's, and Goodman's. Rumelhart's theory maintains some constraints on the interactivity that weaken the theory. Beaugrande has a high degree of specificity of terms; however, his connectivity is weak, and the theory has poor specificity in describing a reading behavior. Goodman's theory most adequately describes the reading process based on the criteria for an adequate theory.

The study establishes the basis for five areas of continued study. (1) The examination of additional theories. (2) A validation and/or revision of the benchmarks as a result of new research. (3) The expansion and/or revision of theories studied. (4) The design and implementation of research based on a theory that most adequately explains the reading process. (5) The creation of new theory.

DEVELOPMENTAL CHANGES IN THE USE OF THEMATIC INFORMATION FOR RECALLING EXPOSITORY PROSE

Order No. DA8225673

SPINELLI, FRANCESCA MARIE, PH.D. *The University of Wisconsin - Madison*, 1982. 113pp. Supervisor: Professor Dolores Kluppel Vetter

The purpose of this study was to investigate the effect of placement of topic sentences on kindergarten, third, and sixth graders immediate recall of four-paragraph expository passages. There were five experimental conditions. In three conditions the topic sentences were present at the time the passages were heard. For one of these all topic sentences were heard prior to the passage. For the other two the topic sentences were embedded in the passage either at the beginning or end of each paragraph. For the fourth condition, the topic sentence was presented just prior to the subjects' recall. The fifth condition was a control condition in which no topic sentence was present. Each subject received all five conditions with five different expository passages. Order of conditions and pairing of conditions with passages were counter-balanced by means of a Greco-Latin Square.

Two dependent variables were measured: number of propositions recalled and topical organization. The results indicated that the third and sixth graders recalled more propositions than the kindergarten children. While no condition effect was found, a three-way interaction of grade and two within-subject variables was present. Because of the confounding nature of the Greco-Latin Square design it was not possible to determine which of the within-subject variables (condition, passage, order) was involved. The results from the second dependent measure, that of topical organization, revealed that all subjects recalled the topically organized passages in a topically cohesive way.

THE VALIDATION OF A MODEL OF READING COMPREHENSION WITH EMPHASIS ON INTEREST AND PRIOR KNOWLEDGE

Order No. DA8300782

WALTON, BRUCE WARD, ED.D. *Boston University School of Education*, 1982. 305pp. Major Professor: Roselmina Indrisano

This study was designed to validate a model of fluent reader/expository test interaction. The assessment of prior knowledge and interest was vital to the validation of this model.

The subjects were 94 above average eleventh grade students from a small suburban Boston community. Data collection took place as follows. A subject first answered 15 multiple-choice prior knowledge questions about a general topic. Then the subject read one of eight passages about one of the following four topics: track crime, acne, tennis elbow, and cashiering. The subject then completed a written recall of passage content. Following this s/he answered 20 comprehension questions (textually explicit and implicit), and completed prior knowledge and interest rating scales.

The independent variables investigated were: prior knowledge, interest, explicitness of surface structure, and reading achievement. The dependent variables were: textually explicit comprehension, textually implicit comprehension, total comprehension, and written recall.

The following conclusions were reached. Prior knowledge is related to the tendency for a reader to infer correctly about passage content and to the amount of written recall produced about that passage. Prior knowledge appears to contain not only "information" but also "cognitive strategies" which have developed through reorganization of schema content. However, interest does not appear to be strongly related to a tendency to comprehend text or produce a written recall of text content. This finding suggests that the particular method of measuring reader interest may have been a crucial factor.

When explicitness of text structure was manipulated in this study, it was found that explicit structure aided both low and high comprehenders to infer more accurately from text. As expected, reading achievement affected performance.

Thus, the model was validated; however, more research is needed especially in the area of affective contributions to the comprehension process. It was suggested that this model can serve as the basis for the development of an individualized reading assessment device for high school students.

AN INVESTIGATION OF THE ABILITY OF FOURTH GRADE STUDENTS TO USE CONTEXT CLUES TO DERIVE MEANINGS OF UNFAMILIAR WORDS Order No. DA8308225

WYATT, CAROL ANN, PH.D. *University of Georgia*, 1982. 195pp.
Director: Ira E. Aaron

The purpose of this study was to investigate the differential effects of five types of context clues (definition, appositive, synonym, summary, and comparison and contrast) on the ability of fourth grade students to determine meanings of unfamiliar words. A second purpose of the study was to find if the ability to use context clues to get word meaning is related to these variables: sex; scores on vocabulary, grammar, and reading comprehension. A third question of the study concerned how fourth grade students use context clues.

To test the effects of the five types of context clues, five biographical passages, each containing five nouns determined to be unknown to the subjects, were written. Each unknown noun was defined by one of the five types of context clues. There were five versions of each passage so that each noun was defined in different versions with a different context clue. All passages had a third grade readability level according to the Fry Readability Graph.

Subjects of the study were 150 fourth graders in Avery County, North Carolina who had scored at or above stanine four on the reading battery of the *California Achievement Test*. Each subject read one version of the five passages and answered five multiple-choice questions about the unknown nouns in each passage. Ten students each from those scoring in the high, middle, and low range on the questions were selected for individual interviews.

A repeated measures ANOVA showed differences among the means of the five context clues: definition ($\bar{X}$ = 4.32), appositive ($\bar{X}$ = 3.86), synonym ($\bar{X}$ = 3.67), summary ($\bar{X}$ = 3.16), and comparison and contrast ($\bar{X}$ = 2.80). According to Scheffé's multiple comparisons test all differences were significant except those of the appositive and synonym context clues. Results of the t-test showed no significant differences between the scores of boys and girls on the context clues test. A stepwise multiple regression analysis indicated the reading comprehension scores of the subjects were most highly related to the subjects' scores on the context clues test. The student interviews produced different responses from the three scoring groups on questions concerning how they found the meanings of words defined by context clues.

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